इंटरनेट मानक

Disclosure to Promote the Right To Information

Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 8379 (1977): Spiral Pins (Medium Duty Type) [PGD 31: Bolts, Nuts and Fasteners Accessories]

"ज्ञान से एक नये भारत का निर्माण"
Satyanarayan Gangaram Pitroda
"Invent a New India Using Knowledge"

Act Number 22 of 2005
The Indian Parliament
RIGHT TO INFORMATION

Made Available By
Public.Resource.Org

"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

BLANK PAGE

BRUTUM FULMEN

IGNORANTIA JURIS NON EXCUSAT

PROTECTED BY COPYRIGHT

UDC 621·886·1 (First Reprint APRIL 1984) IS : 8379 - 1977

Indian Standard (Reaffirmed 2001)

SPECIFICATION FOR SPIRAL PINS (MEDIUM DUTY TYPE)

1. Scope — Covers the requirements of spiral pins of medium duty type in the diameter range 0·8 to 16 mm.

2. Dimensions and Tolerances

2.1 As given in Table 1.

2.2 The preferred length-size combinations of the spiral pins shall be as given in Table 2.

2.3 Tolerance on the hole receiving the pin shall be H12.

3. Material — Spiral pins of medium duty type shall be made from carbon spring steel 75 C6 (*see* IS : 2507-1975 Specification for cold rolled steel strip for springs), hardened and tempered to 350 to 475 *HV* [*see* IS : 1501-1968 Method for Vickers hardness test for steel (*first revision*)].

4. Designation — Spiral pins of medium duty type shall be designated by the name, size, length, number of this standard, and protective coating, if any.

Example:

A spiral pin of medium duty type of size 2·5 mm and length 10 mm with phosphate coating shall be designated as:

Spiral Pin 2·5 × 10 IS : 8379 Phosphated

5. Sampling and Acceptance

5.1 The sampling procedure for the testing and acceptance criteria for the spiral pins shall be in accordance with IS : 6821-1973 ' Methods for sampling non-threaded fasteners

5.2 For the purpose of sampling and criteria for conformity, the classification of defects into major and minor shall be as follows:

Major Defect	*Minor Defect*
Outside diameter, d_1 (measured with a ring gauge)	Diameter over chamfer, d_2 Sheet thickness, s Length, l Freedom from burrs

6. General Requirements

6.1 *Workmanship* — The surface of the spiral pins shall be smooth and free from scale and burrs. The outer edges shall be deburred and may also be lightly rounded.

6.2 *Finish* — The spiral pins shall be supplied in natural bright finish unless otherwise specified by the purchaser. At the request of the purchaser, spiral pins may be copper plated, nickel plated, cadmium plated or phosphated. The properties shall not be impaired by the protective coating.

6.3 *Shear Strength* — Shear force in double shear, when tested in accordance with IS : 5242-1969 ' Methods of test for determining shear strength of mild steel ' with suitably hardened steel bushes shall not be less than that specified in Table 1.

7. ISI Certification Marking — Details available with the Indian Standards Institution.

Bolts, Nuts and Fasteners Accessories Sectional Committee, EDC 27 [Ref : Doc : EDC 27 (2621)]

Adopted 22 February 1977

© June 1977, ISI

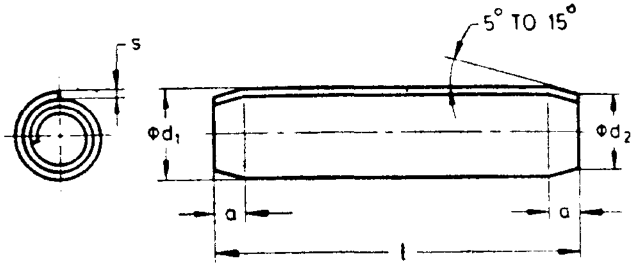
Gr 2

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

TABLE 1 DIMENSIONS FOR SPIRAL PINS OF MEDIUM DUTY TYPE

(*Clause* 2.1)

All dimensions in millimetres.



Size*			0·8	1	1·2	1·5	2	2·5	3	3·5	4	5	6	8	10	12	14	16
$a \approx$			0·2	0·3	0·4	0·5	0·7	0·8	1	1·2	1·3	1·7	2	3	3	4	4·5	5
s			0·07	0·08	0·1	0·13	0·17	0·21	0·25	0·29	0·33	0·42	0·5	0·67	0·84	1	1·2	1·3
Before fitting	d_1	Basic	0·85	1·1	1·3	1·62	2·15	2·65	3·15	3·67	4·2	5·25	6·25	8·35	10·45	12·5	14·55	16·55
		Tol	+ 0·05	+ 0·05 0	+ 0·1 0	+ 0·1 0	+ 0·1 0	+ 0·15 0	+ 0·15 0	+ 0·17 0	+ 0·2 0	+ 0·25 0	+ 0·25 0	+ 0·25 0	+ 0·35 0	+ 0·35 0	+ 0·4 0	+ 0·45 0
	d_2	Basic	0·75	0·95	1·15	1·4	1·9	2·35	2·85	3·35	3·8	4·8	5·8	7·75	9·6	11·5	13·5	1·54
		Tol	0 − 0·05	0 − 0·1	0 − 0·1	0 − 0·1	0 − 0·15	0 − 0·15	0 − 0·15	0 − 0·2	0 − 0·2	0 − 0·3	0 − 0·4	0 − 0·5	0 − 0·6	0 − 0·7	0 − 0·9	0 − 1
Shear force in *N*† *Min*	Single shear		206	295	441	716	1 265	1 702	2 706	3 697	4 834	7 492	10 835	19 220	30 516	43 980	60 424	74 575
	Double shear		412	590	882	1 432	2 530	3 804	5 412	7 394	9 668	14 984	21 670	38 440	61 032	87 960	120 848	149 150

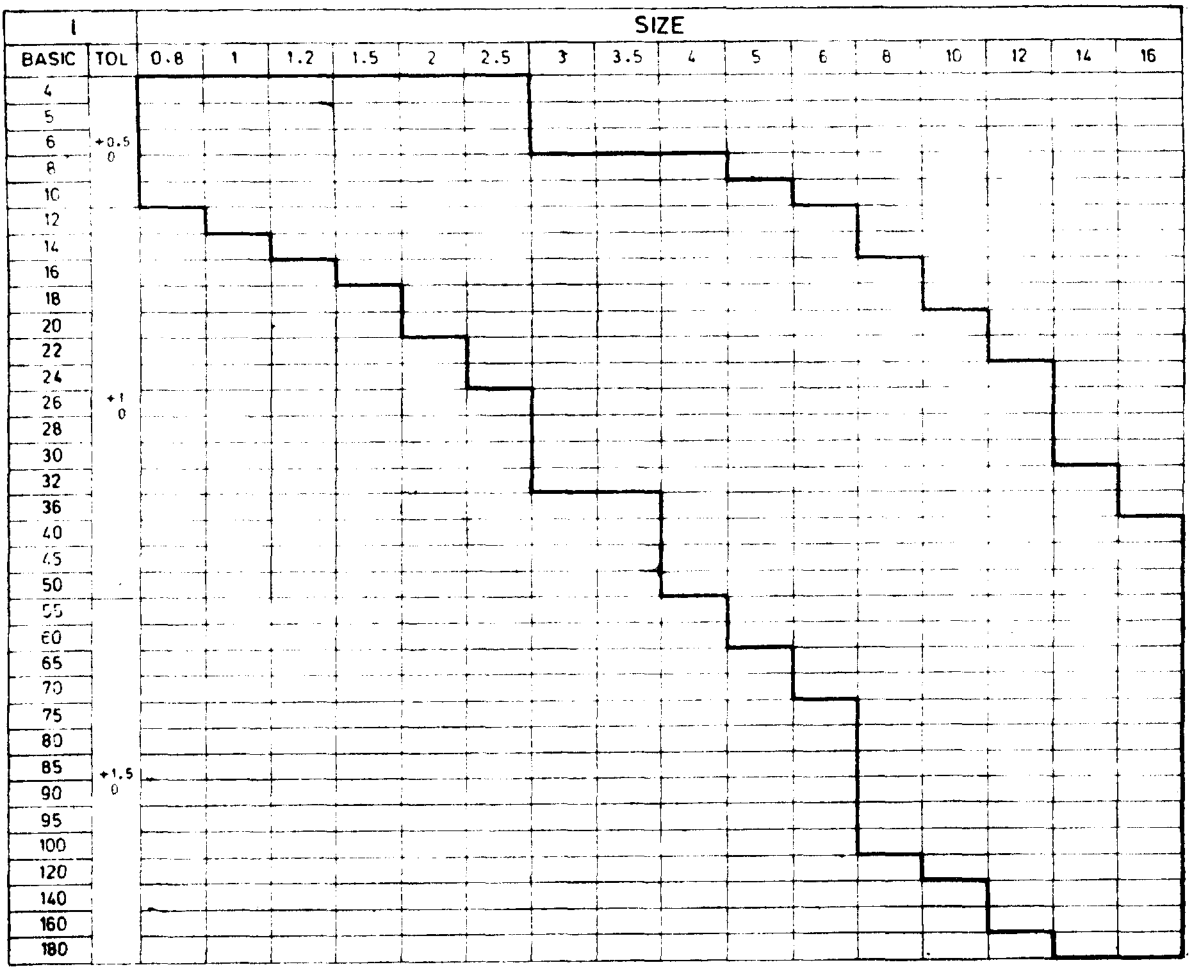
*Size of the spiral pin is also the nominal diameter of the receiving hole.

†1*N* ≈ 0·102 kgf.

TABLE 2 PREFERRED LENGTH-SIZE COMBINATIONS OF SPIRAL PINS OF MEDIUM DUTY TYPE

(*Clause* 2.2)

All dimensions in millimetres.



l		SIZE															
BASIC	TOL	0.8	1	1.2	1.5	2	2.5	3	3.5	4	5	6	8	10	12	14	16
4	+0.5 0																
5																	
6																	
8																	
10																	
12	+1 0																
14																	
16																	
18																	
20																	
22																	
24																	
26																	
28																	
30																	
32																	
36																	
40																	
45																	
50																	
55	+1.5 0																
60																	
65																	
70																	
75																	
80																	
85																	
90																	
95																	
100																	
120																	
140																	
160																	
180																	

Note — Preferred length-size combinations are between the stepped bold lines.

EXPLANATORY NOTE

Spiral pins are used for joining (pinning) two or more parts. Apart from their role as fasteners, they may also be employed as hinges, pivots, locating devices, retainers and so on. The spiral shaped cross-section (approximately 2¼ turns) confers high elastic deformability on the spiral pins. This means that they are also capable of sustaining dynamic loading. The individual turns of the pin exert a constant preload over the periphery, so that a uniform bearing pressure is likely to be exerted in the receiving hole.

The medium duty pin is recommended where shear, shock and vibration are of medium intensity and where shock and vibration are greater than the static shear load.

The two ends of the pin are given a conical form to facilitate entry into the receiving hole. The shear strength of the spiral pin is the same in every radial position and consequently there is no need to align them.

Heavy duty spiral pins are covered by a separate Indian Standard. The difference between the two types of spiral pins is only in the sheet thickness and hence in shear strength. Dimensionally, the two types of spiral pins are interchangeable. Illustration of an application is given below:

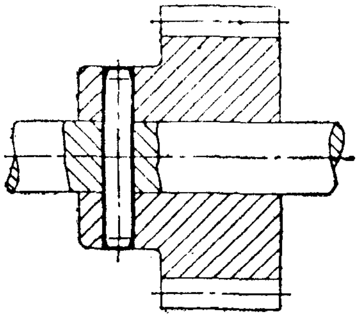


FIG. 1 USED AS A RADIAL PIN

In the preparation of this standard considerable assistance has been derived from DIN 7343 Spiral — Spannstifte, Reglausfuhrung (Spiral pins, medium duty type), issued by the Deutsches Institut für Normung.

Seema Offset Press, Delhi, India